

Application No. 09/819,971
Confirmation No. 4223

Reply to Office Action Mailing Date December 29, 2004
Reply Date (via fax): Feb. 9, 2005

Amendments to the Drawings:

The attached drawing sheet includes changes to Fig. 2. This sheet replaces the original sheet. In Figure 2, newly added claim features have been added to the flowchart of Figure 2.

REMARKS

This application has been reviewed in light of the Office Action mailed on December 29, 2004. Claims 1-21 are pending in the application with Claims 1, 8 and 15 being in independent form. By the present amendment, Claims 1, 8 and 15 have been amended. No new matter or issues are believed to be introduced by the amendments.

(1) In the Office Action, the drawings were objected to for not showing every feature of the invention specified in the claims. The drawings have been amended in a manner which is believed to obviate the objection. Accordingly, withdrawal of the objection is respectfully requested.

(2) In the Office Action, Claims 1-6, 8-9, 11, 13, 16, 18 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,982,420 to Ratz in view of U.S. Patent No. 5,867,584 to Hu et al.; (hereinafter Hu). These claims are deemed to be patentable for at least the reasons given below.

Applicant wishes to point out that the Examiner apparently has made an erroneous reference to claim 7 in the Office Action. It is noted that Claim 7 was cancelled in the previous response of July 21, 2004.

In the instant rejection, the Examiner states that Ratz fails to show the step of:

switching the automated video tracking system from an automatic mode to a manual mode if the automated video tracking system encounters a period of difficulty in tracking the tracked selected desired target.

The Examiner maintains that while Ratz fails to show the switching step, Ratz does show disengaging the autotracker if the object encounters a period of difficulty at col. 13 lines 1-5. For the record, Applicants maintain that by the Examiner's admission, stating that Ratz fails to show the switching step, the Examiner has failed to make a prima facie case and should withdraw the rejection. Assuming arguendo, that a prima facie case has been made, Applicant respectfully traverses the rejections of Claims 1-6, 8-9, 11, 13, 16, 18 and 20 under 35 U.S.C. 103(a) as being unpatentable over the combination of Ratz and Hu for the reasons set forth below.

Applicant maintains that the Examiner fails to appreciate the significance of the term "disabling". In Ratz, the autotracker disables itself when the object disappears and the digital-to-analog converter outputs of Figs. 8 and 9 are forced to zero volts with the presence of the HOME command (the HOME command centers the window on the display screen). Forcing the d/a converters to zero volts and centering the window on the display screen disables the autotracker of Ratz as a consequence of the disappearance of the object (i.e., leaving no possibility of re-acquisition).

This is in stark contrast to the invention, as recited in the independent Claims. Specifically, Claim 1 recites, that in the case where the autotracking system goes through a period of difficulty (step e), the target may thereafter be re-acquired (step f). The period of difficulty being a temporary state, different from disablement, and resolvable through re-acquisition. The period of difficulty, as taught in the specification, can be, for example, having the confidence value fall temporarily below a pre-defined threshold. This is clearly distinguishable from the permanence of an object disappearing altogether, as taught in Ratz.

Steps (e) and (f) of Claim 1 recite:

(e) switching the automated video tracking system from an automatic mode to a manual mode if the automated video tracking system encounters a period of difficulty in tracking the tracked selected desired target, and

(f) reacquiring the selected desired target in manual mode in response to and during said period of difficulty [Emphasis Added]

It is submitted that while Ratz may teach target re-acquisition, as alleged by the Examiner, Ratz does not teach target re-acquisition in response to and during a permanent or temporary disability in tracking the target in the automatic mode.

In the Office Action, the Examiner maintains that Ratz teaches the step of “re-acquiring the target in manual mode” at Col. 12, lines 54-58. Assuming arguendo that Ratz in fact teaches such re-acquisition, it is submitted that the re-acquisition being taught in Ratz is not in response to and during a “period of difficulty”. Claim 1 has been appropriately amended to recite this patentable distinction. That is, independent Claim 1 has been amended to more clearly define the invention and patentably distinguish Applicant’s invention over Ratz. Claim 1 now recites limitations and/or features which are not disclosed or suggested by Ratz. Claim 1 now recites at step (f):

(f) reacquiring the selected desired target in manual mode in response to and during said period of difficulty

Support is found throughout the specification, and in particular at page 14, wherein it is stated, “If the operator perceives a difficulty has or is about to be encountered, the method proceeds along path 206b by switching from automatic mode to manual mode.....Once in manual mode, the operator reacquires the desired target at step 210. It is preferred that the target is reacquired in a simpler manner as compared to the way it is initially selected, namely, by

centering the desired target 106a in the monitor's display 110a of the scene 104 by manipulating the joystick 112 or other input device".

In the Office Action, Hu is cited for curing a deficiency in Ratz. Specifically, Hu is cited for disclosing an apparatus that automatically tracks objects until a quality or confidence level falls below a threshold in which the system then warns the user. The Examiner alleges the Hu further discloses that "during the automatic track mode, the automated video tracking system calculates a confidence value indicating a degree of correlation between the tracked target and a previously constructed computer model". The Examiner cites Hu at col. 3, lines 35-40 and at col. 4, lines 1-4, asserting that the constructed computer model is the file from which the user has to open to begin the tracking procedure. Applicant respectfully disagrees with the Examiner's particularly strained interpretation of Hu.

The invention, as disclosed in the specification at par. 36, states that when the target 106a is initially selected, a computer model is built to represent the appearance of that target 106a. During tracking of the target 106a, whenever the tracker finds a part of the image that matches to the target model, it preferably computes a number which represents how well the target 106a matches the model.

In the Office Action, the Examiner maintains that the previously constructed computer model is the file from which the user has to open to begin the tracking procedure. This is nothing more than a strained interpretation of Hu. Hu clearly discloses at Col. 4 that the user opens the video file to select an object the user wishes to track and defines an object window around the object and then selects the track button which instructs the system to automatically track the object in subsequent frames. Clearly, Hu does not teach a comparison of a computer model with a video image of the tracked target, as recited in the independent claims as amended.

Rather, Hu teaches comparing the video image of a tracked target in one frame with the video image of the target in one or more subsequent frames.

Accordingly, applicant respectfully request withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claim 1 and allowance thereof is respectfully requested.

Claims 2-6 depend from independent Claim 1 and therefore contain the limitations of Claim 1. Hence, for at least the same reasons given for Claim 1, Claims 2-6 are believed to be allowable over Ratz and Hu, alone, and in combination.

Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 2-6 is respectfully requested.

Independent Claims 8 and 15 recite features which are found in Claim 1, as amended. Hence, for at least the same reasons given for Claim 1, Claims 8 and 15 are believed to be allowable over the cited references, alone and in combination.

Additionally, Claims {9, 11 and 13} and Claims {16, 18 and 20} depend from independent Claims 8 and 15, respectively, and therefore contain the limitations of Claims 8 and 15. Hence, for at least the same reasons given for Claim 8 and 15, Claims {9, 11 and 13} and Claims {16, 18 and 20} are believed to be allowable over the cited references, alone and in combination. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims {9, 11 and 13} and Claims {16, 18 and 20} and allowance thereof are respectfully requested.

(3) In the Office Action, Claims 10, 12, 14-15, 17, 19 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,982,420 to Ratz in view of

U.S. Patent No. 5,867,584 to Hu et al. (hereinafter Hu) and in further view of U.S. Patent No. 5,111,288 to Blackshear.

With respect to the rejection of independent Claim 15, it is respectfully submitted that U.S. Patent No. 5,111,288 to Blackshear does not cure the deficiencies of Ratz and Hu. Blackshear is cited to provide a tracking system that controls the pan and tilt movements through the motion of a joystick.

Accordingly, it therefore follows that Ratz in view of Blackshear, alone or in combination, do not anticipate the subject matter of Claim 15.

Additionally, Claims {10, 12, 14} and {17, 19, 21} depend respectively from Independent Claims 8 and 15 and therefore contain the limitations of Claims 8 and 15. Hence for at least the same reasons given for Claims 8 and 15, Claims {10, 12, 14} and {17, 19, 21} are believed to be allowable over the cited references, alone or in combination. Accordingly, withdrawal of the rejection under 35 U.S.C. §103(a) with respect to Claims 10, 12, 14-15, 17, 19 and 21 is respectfully requested.

In view of the foregoing amendments and remarks, it is respectfully submitted that this application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and notice of allowance be issued.

If the Examiner should have any questions concerning this communication or feels that an interview would be helpful, the Examiner is requested to call Dicron Halajian, Esq., Intellectual Property Counsel, Philips Electronics North America Corp., at 914-333-9607.

Respectfully submitted,



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